

# AASHTO 2019 GIS for Transportation Symposium

Integrating Geo-situational Awareness with  
MS Dynamics for Customer Service

Trent Park GISP  
SVP Solutions

April 2019





## Customer Service Center

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### Agenda

- Project Background
- Solution Description
- Results & Lessons Learned
- Discussion



## About GeoDecisions®

- Leader in transportation GIS solutions
- Application of geospatial data sciences
- Founded in 1986 in State College, PA
- Esri® Platinum Partner
- More than 130 employees
- ISO 9001:2015



## Project Background– VDOT Customer Service Center

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- Located in Salem, Virginia
- Staffed 24x7x365
- Supports 3<sup>rd</sup> largest state DOT
- 200,000 contacts annually
- 120,000 service requests annually

A few of the many people taking calls on snow removal. Our Customer Service Center is working 24/7: 1-800-FOR-ROAD.





## Project Background- Initiative

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To replace and modernize the technology in VDOT's customer service center.

This included new software for:

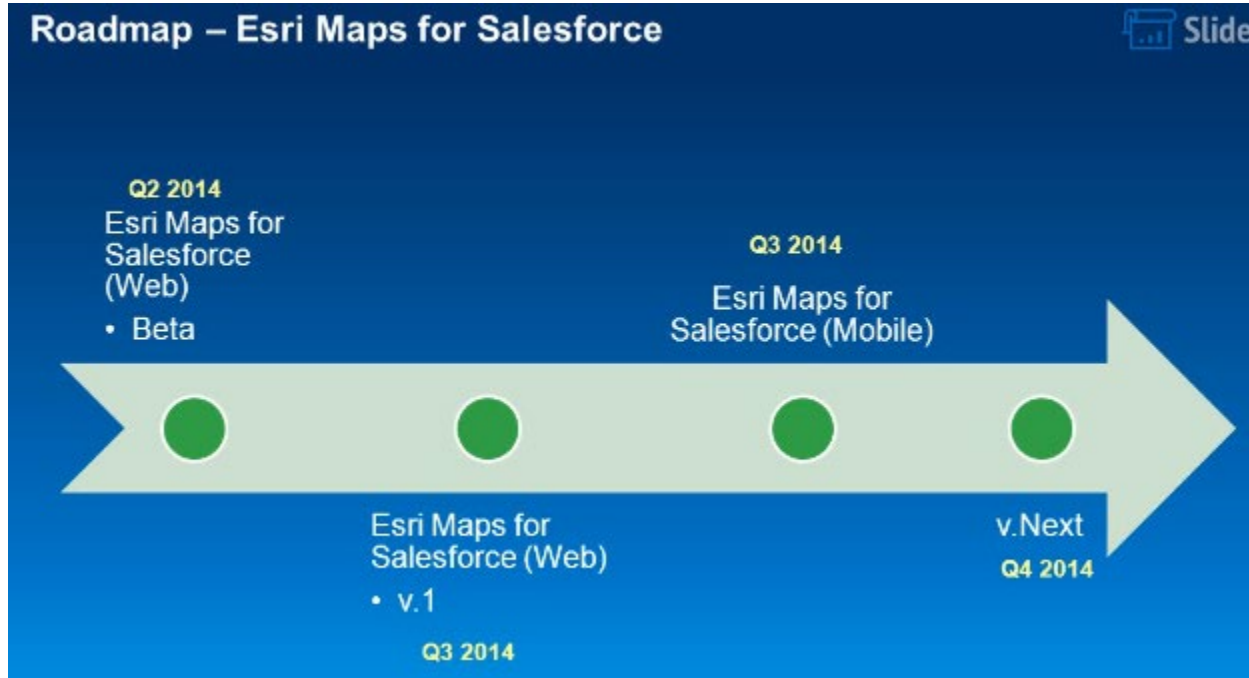
- contact management
- customer relationship management
- citizen self-service
- replacement or upgrade of all network and hardware.



## Project Background– Desired End- State

- Integrated multi-channel communication
  - Telephone, email, text, web chat, mobile “self serve”
- Automatic routing of Service Requests to ~350 separate work groups across VDOT
- Commercial off-the-shelf solution





## Solution Description -




# Esri Maps for Salesforce

Home

Install and Configure

Design and Use Maps

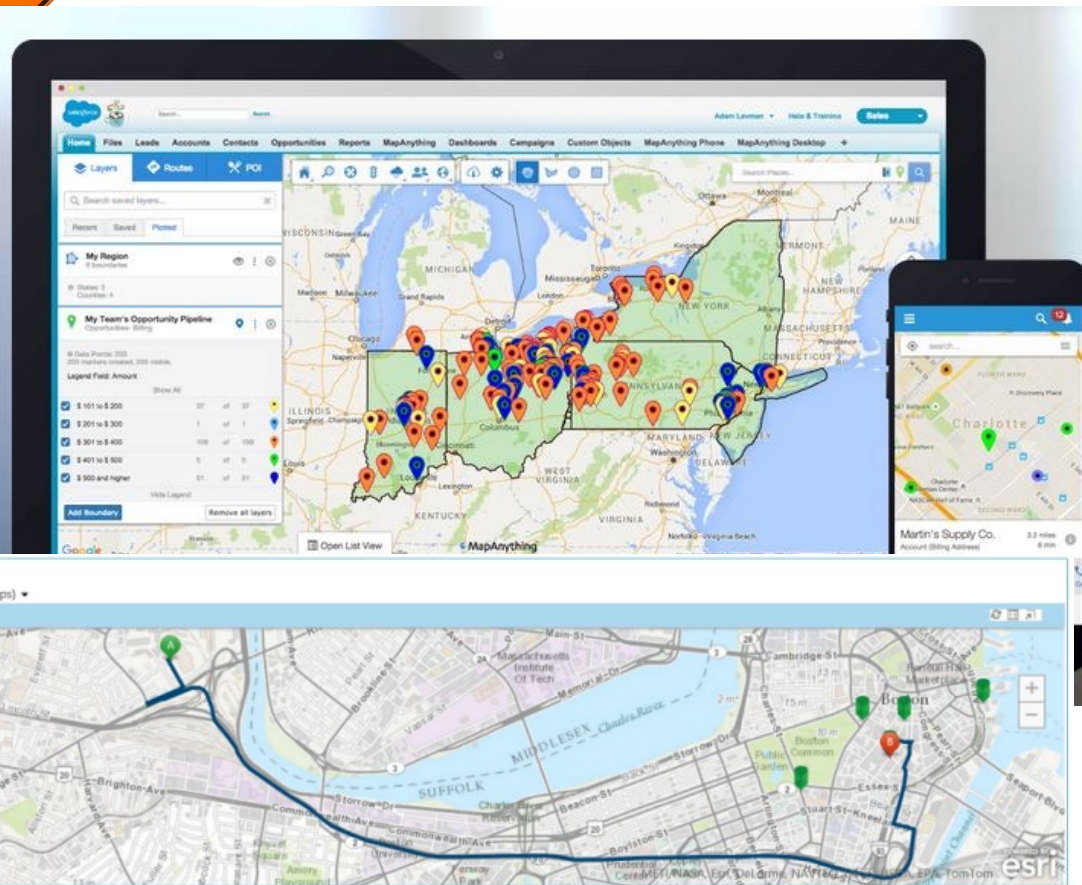
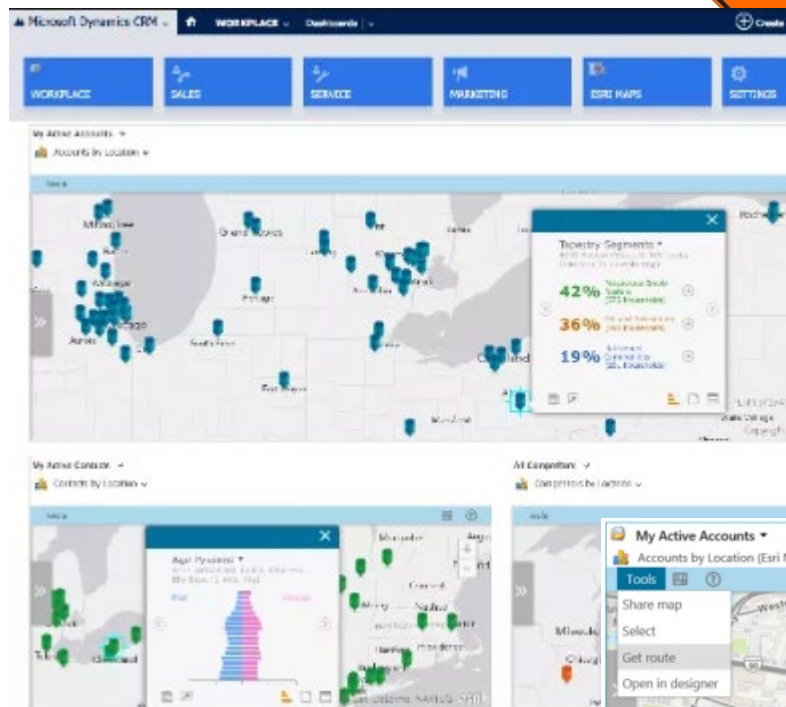
Mobile

 The Esri Maps for Salesforce and Esri Maps Mobile for Salesforce are now retired. They are no longer available for download.



# Solution Description -

DETOUR



# Solution Description- Overview

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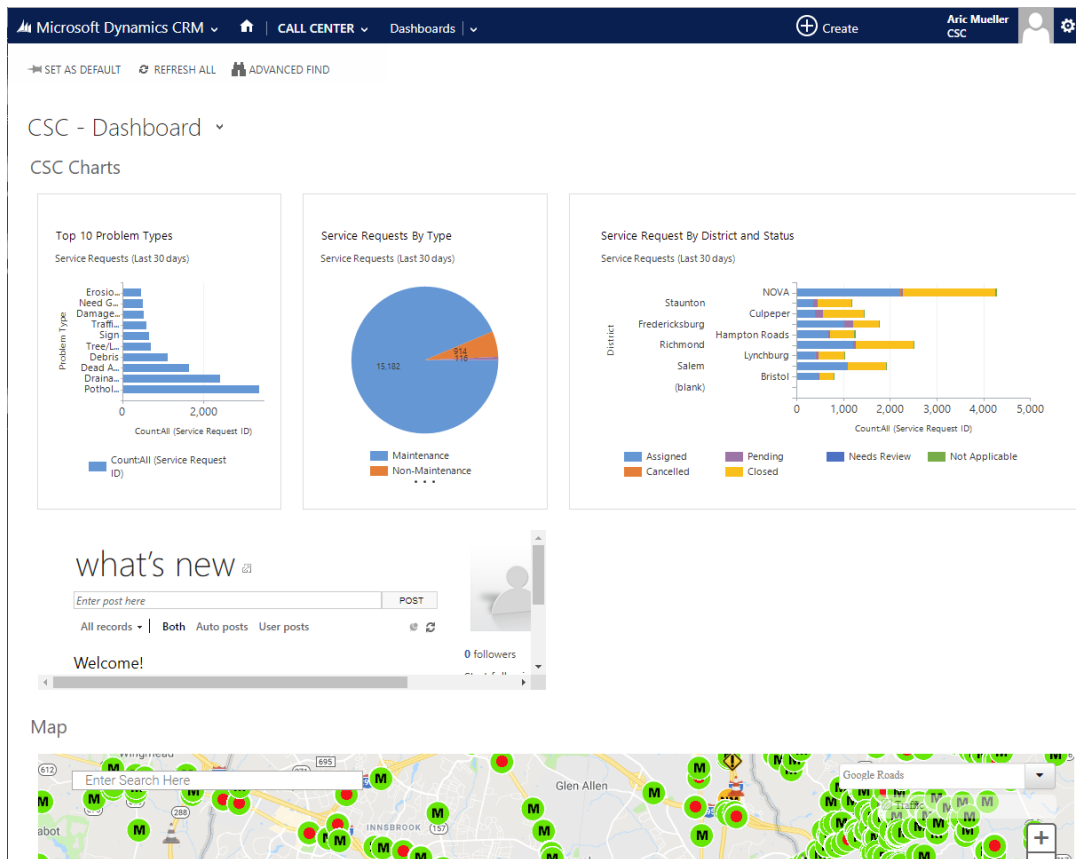
## The Solution

SingleStone helped expand and enhance service capabilities by:

- Integrating multi-channel options
- Implementing enriched caller-recognition and customer relationship management features



# Solution Description– Homepage/Dashboard



# Solution Description– New Service Request

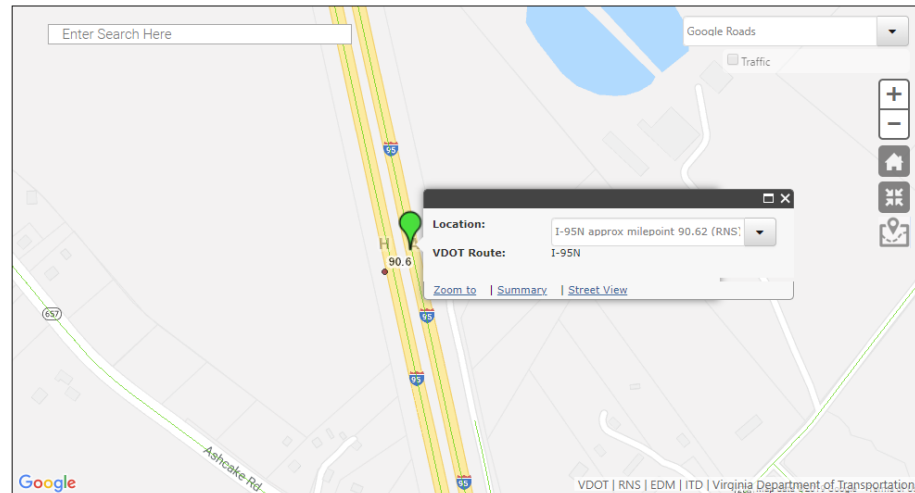
CSC LOG : STANDARD

## Agent Created - Test McTesterson

Customer  
Test McTesters

Method of Contact  
Agent Created

What beautiful day!



### Customer Information

+ Add New Edit

First Name \*

Test

Last Name \*

McTesterson

Customer Type \*

Citizen

Phone 1 (Req) Ext

(804) 555-111

Phone 2 Ext

(804) 555-222

Email

tes@test.com

Disposition \*

Service Request (New)

Internal Notes

Jurisdiction	District	Residency	AHQ	TDC	TAMS	VDOT Maintained
Hanover	Richmond	Ashland	Ashland	Richmond	TAMS Richmond	North
<p>Location</p> <p>I-95N approx milepoint 90.62</p> <p>VDOT Route: I-95N Mile From: 90.62 Mile To: 90.62</p>						

### Service Request History

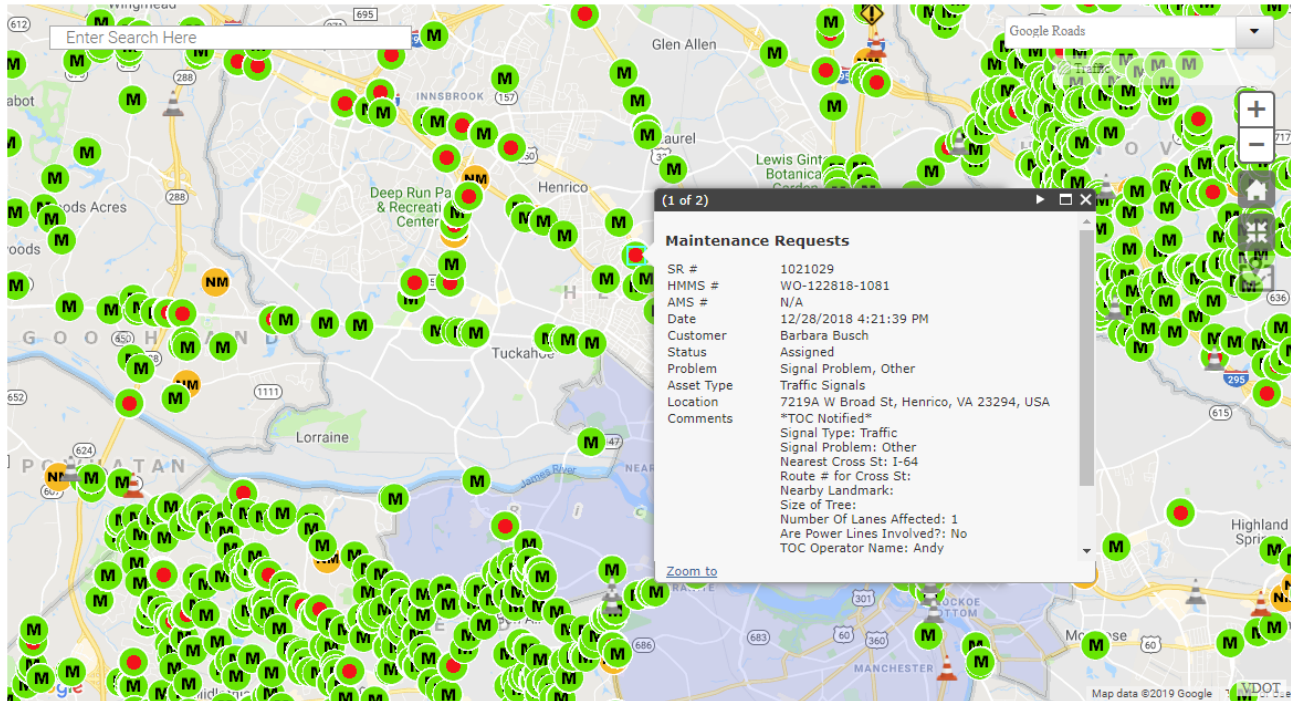
ID	Date	Problem
117463	11/01/18 3:22p	Pothole
117462	11/01/18 3:21p	AAH Bag Pick Up
116775	3/14/18 6:07p	Dead Animal
116773	3/14/18 4:48p	Dead Animal
116762	2/28/18 3:44p	Pothole

### Contact History

Channel	Date	Reason
Email-Out	2/14/18 2:57p	VDOT Service Request #1167

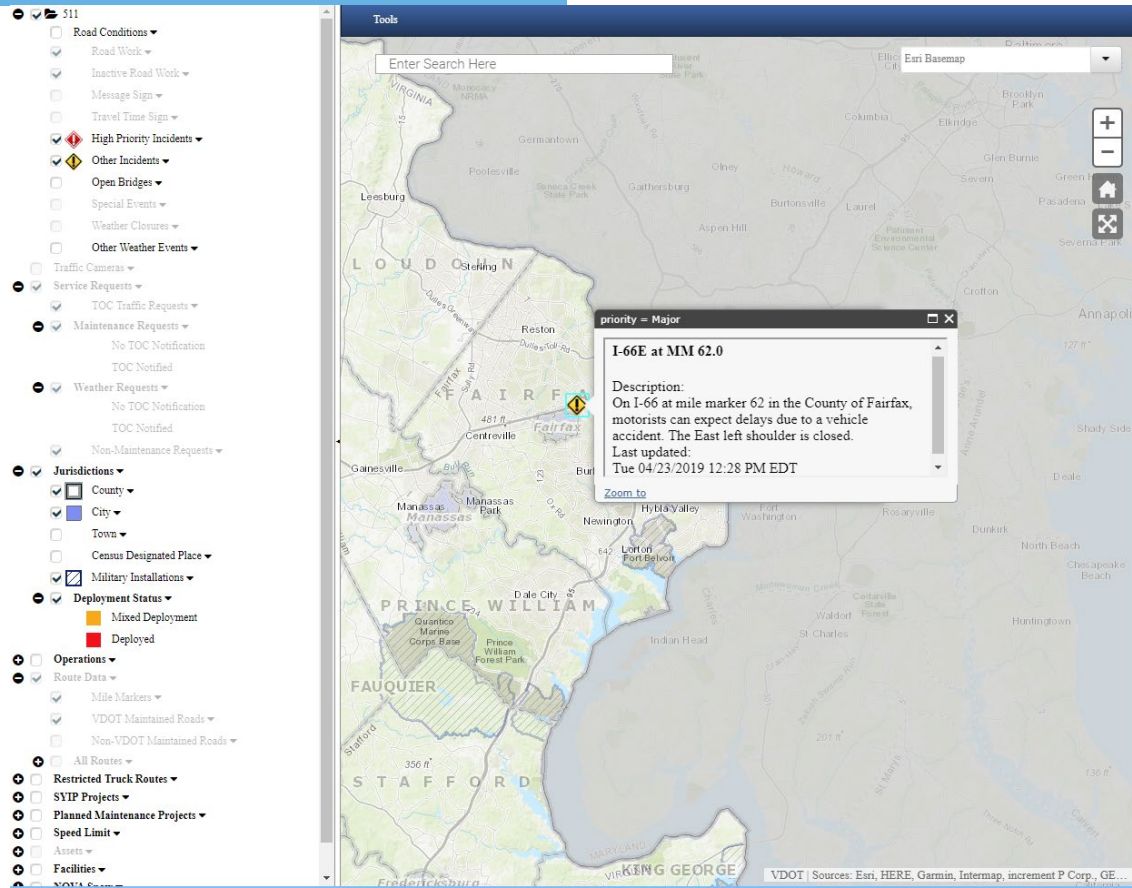
# Solution Description– Homepage/Dashboard

Map

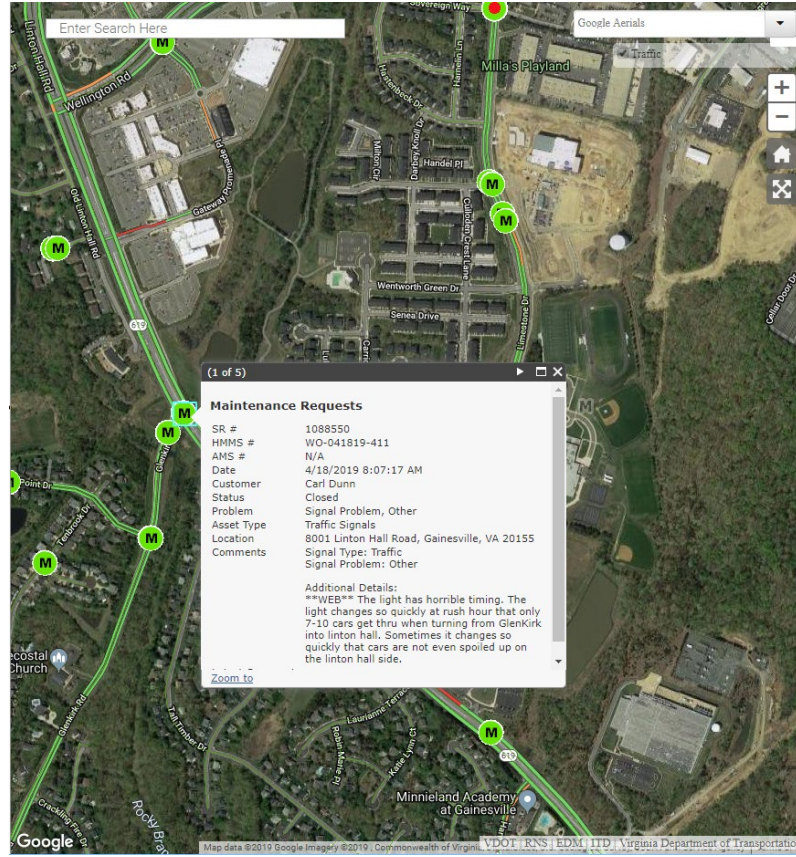




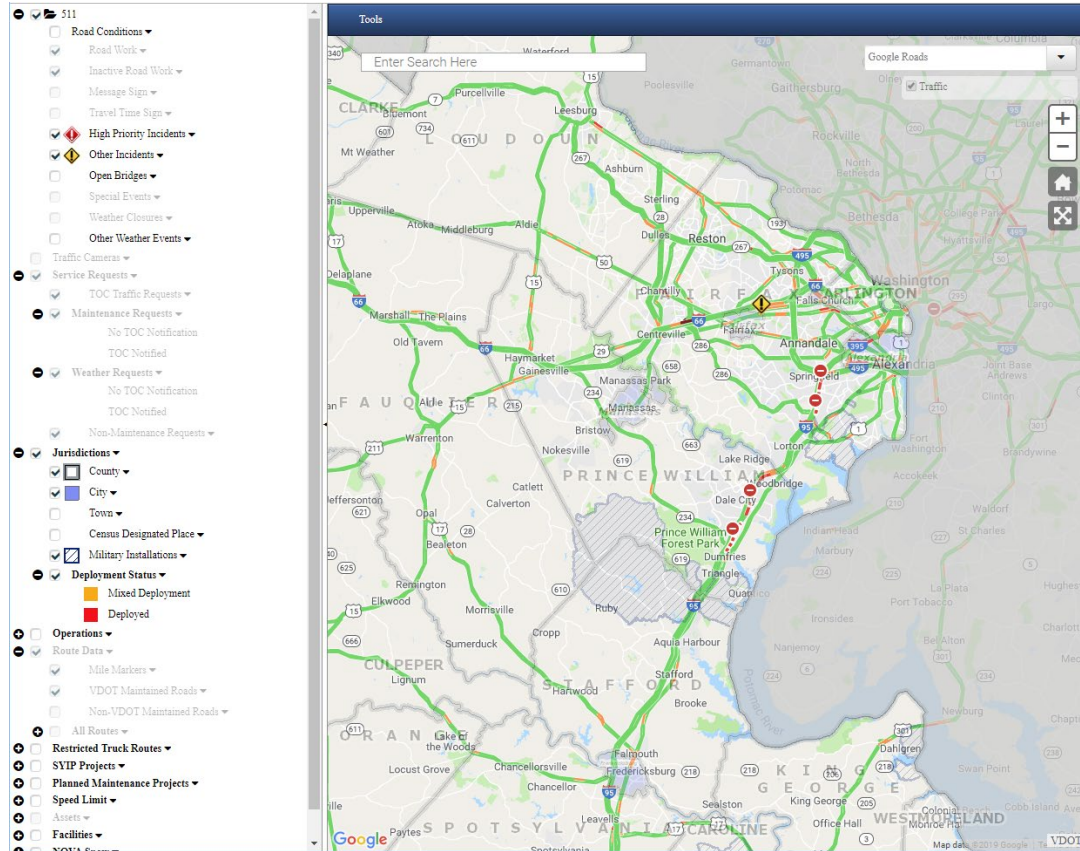
# Solution Description– 511 Feed



# Solution Description– Aerial



# Solution Description– Google Traffic



# Solution Description– StreetView

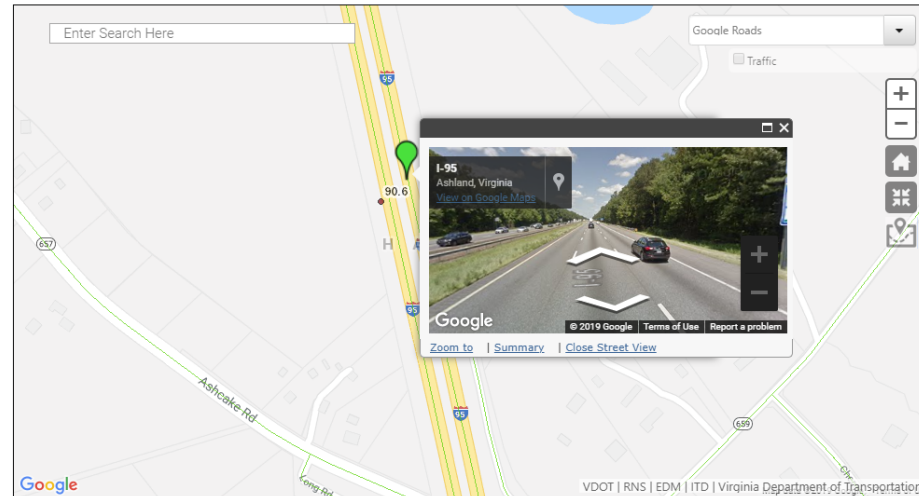
CSC LOG : STANDARD

## Agent Created - Test McTesterson

Customer  
**Test McTesterson**

Method of Contact  
**Agent Created**

What beautiful day!



### Customer Information

+ Add New Edit

First Name \*

**Test**

Last Name \*

**McTesterson**

Customer Type \*

**Citizen**

Phone 1 (Req) Ext

**(804) 555-111**

Phone 2 Ext

**(804) 555-222**

Email

**tes@test.com**

Disposition \*

**Service Request (New)**

Internal Notes

Jurisdiction

District

Residency

AHQ

TOC

TAMS

VDOT Maintained

Hanover

Richmond

Ashland

Ashland

Richmond

Richmond

TAMS Richmond

TAMS Richmond

Location

I-95N approx milepoint 90.62

VDOT Route: I-95N  
Mile From: 90.62  
Mile To: 90.62

### Service Request History

ID	Date	Problem
117463	11/01/18 3:22p	Pothole
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### Contact History

Channel	Date	Reason
Email-Out	2/14/18 2:57p	VDOT Service Request #1167

# Solution Description– Map Data Other Data

**Deployment Status** ▼

- Mixed Deployment
- Deployed

**Route Data** ▼

- Mile Markers ▼
- VDOT Maintained Roads ▼
- Non-VDOT Maintained Roads ▼

511

- Road Conditions ▼
- Road Work ▼
- Inactive Road Work ▼
- Message Sign ▼
- Travel Time Sign ▼
- High Priority Incidents ▼
- Other Incidents ▼
- Open Bridges ▼
- Special Events ▼
- Weather Closures ▼
- Other Weather Events ▼
- Traffic Cameras ▼

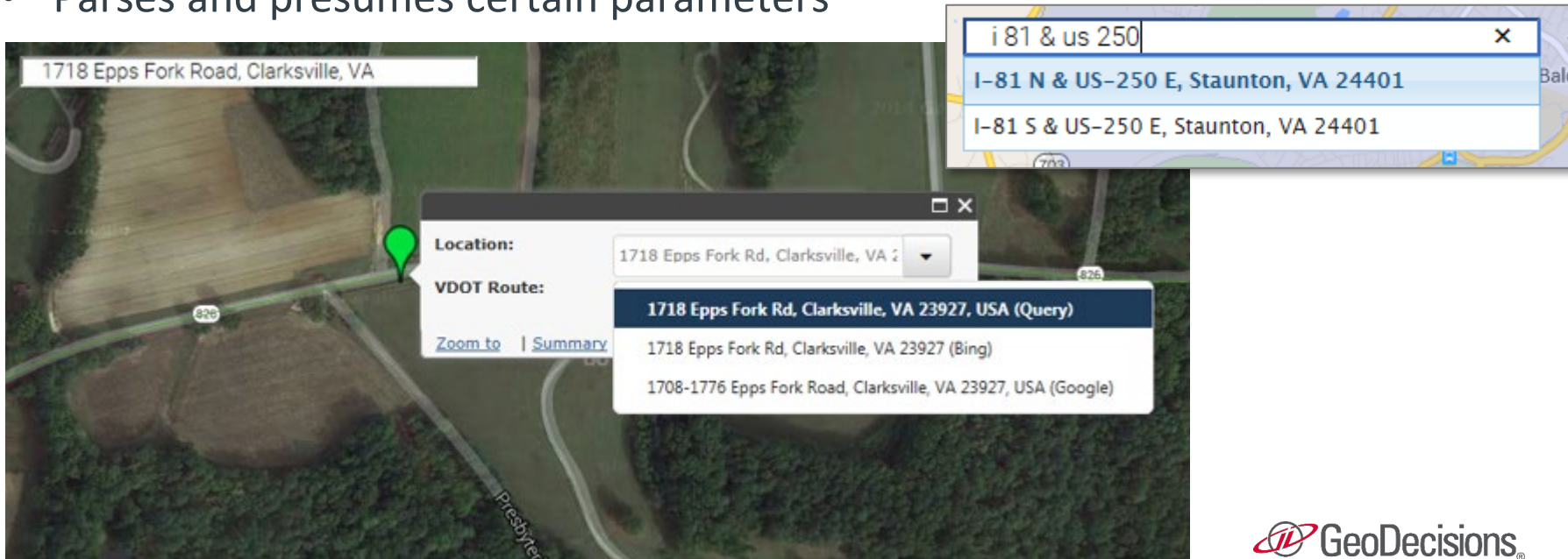
**Jurisdictions** ▼

- Operations ▼
- Route Data** ▼
- Restricted Truck Routes ▼
- Planned Maintenance Projects ▼
- Assets ▼
- Facilities ▼
- Evacuation Routes ▼



# Solution Description– Searching and Geocoding

- Hybrid Geocoder in Search bar
- Prioritizes location services (VDOT LRS, Esri, Google, Bing)
- Parses and presumes certain parameters



## Solution Description– Mapping Integration

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- Esri ArcGIS Javascript map
- Uncoupled from MS Dynamics (or any other CRM)
- Standards compliant protocols in any browser (iFrame or separate browser)

“When the map is open and being interacted with, it is able to determine if it is "context" of a Dynamics workflow and respond accordingly. If it is not, it acts as a standalone map.”

## Solution Description– Map APIs

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One of the unique aspects of the CSC map is that it embeds a fully functional Google Maps API instance (traffic, streetview, places, etc.) within an Esri ArcGIS Javascript API instance.

Google functionality was a core requirement in the project and this implementation allows a full Google API instance to load without violating Google terms of usage.

Essentially, the Google API map interaction events are disabled and, instead, the parent map (ArcGIS JS API) propagates events into the Google map and thus they behave in a synchronized manner.

# Results

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## Residencies

Rules engine routing of work orders saved 16,900 man hours annually and reduced work turn time by 1 day.

## Call Center

Contact volume increased (~1,400 monthly), however, contact for purpose of checking status decreased (by ~1,100 calls monthly) resulting in ~1,400 man hours savings annually

## Virginia Citizens

More convenient options to contact and automated follow-up of status



## Lessons Learned

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Esri, Google, Bing – Marketing dilemma

Google - API

MS Dynamics - stability





# MS Dynamics Workflows

+ NEW ✓ ACTIVATE ✉ SEND EMAIL | ✉ EMAIL A LINK 🔄 RUN WORKFLOW

CSC LOG : STANDARD

## Agent Created - Jane Eyre

Customer: Jane Eyre | Method of Contact: Agent Created

What beautiful day!

Enter Search Here

Google

This page can't load Google Maps correctly.

Do you own this website? [OK](#)

Location: 5425 Richmond Rd, Williamsburg, V

VDOT Route: US-60E

[Zoom to](#) | [Summary](#) | [Street View](#)

**Customer Information**

+ Add New ✎ Edit

First Name \*  
Jane

Last Name \*  
Eyre

Customer Type \*  
Citizen

Phone 1 (R) Ext  
(804) 571- --

Phone 2 Ext  
--

Email  
vnlsenssc+3478@g

Disposition \*  
**Service Request (New)**

Internal Notes  
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Jurisdiction > District > Residency > AHQ > TOC > TAMs

ID Date Problem Status

Service Request History

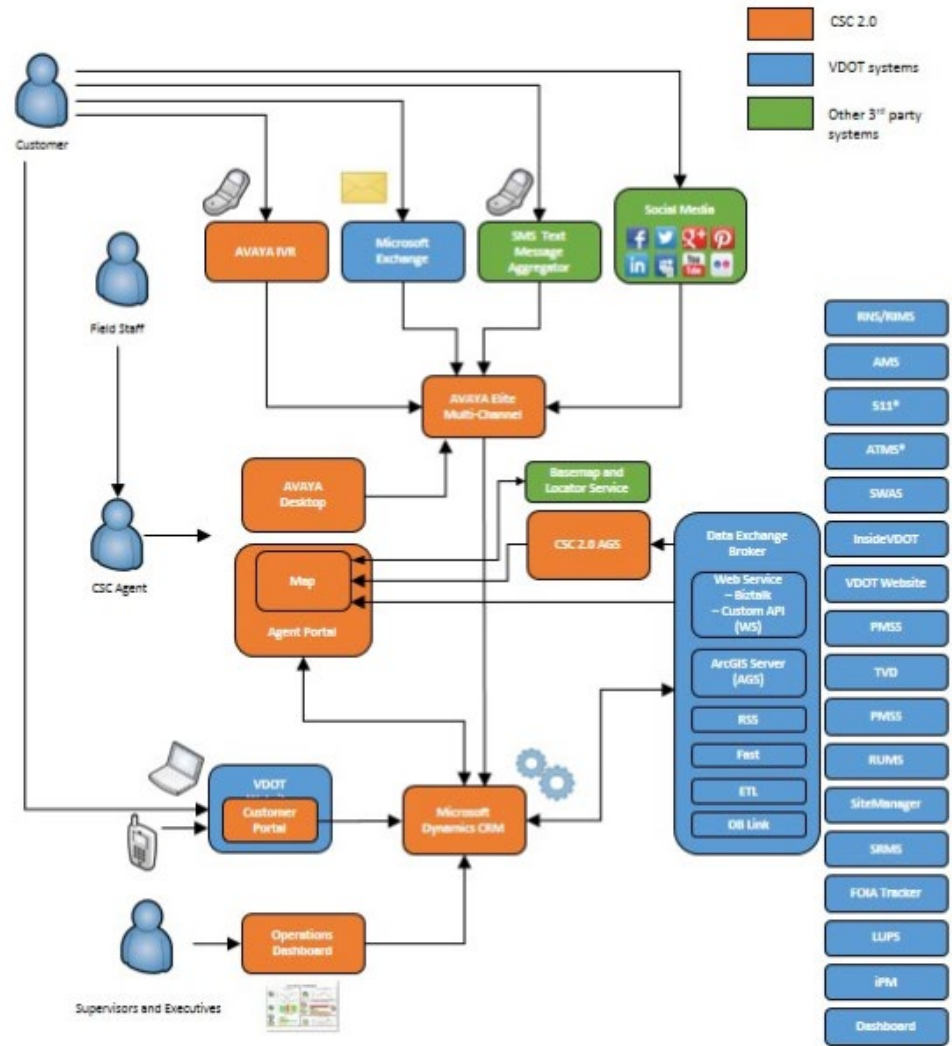
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A Division of Gannett Fleming, Inc.



Brenda Wilson, VDOT 804-786-8935 [brenda.wilson@vdot.virginia.gov](mailto:brenda.wilson@vdot.virginia.gov)

Trent Park | [tpark@geodecisions.com](mailto:tpark@geodecisions.com)

# Solution Description– Diagram



# Additional Capabilities

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